

# INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/001849

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A01N63/02 A23L3/3526  
 //(A01N63/02,61:00,59:26,59:00,37:44)

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A01N A23L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, CHEM ABS Data, WPI Data, PAJ

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DATABASE CA 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; A.A.SALAMAH ET AL.: "Effect of some physical and chemical factors on the bactericidal activity of human lactoferrin and transferrin against Yersinia pseudotuberculosis" XP002255992 retrieved from STN-INTERNATIONAL Database accession no. 123:79372 CA abstract	1,2,7,8, 10,12, 20,22-26
Y	& MICROBIOLOGICA, vol. 18, no. 3, 1995, pages 275-281, ----- -/-	1,4,9, 13,14, 16,21

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

\* Special categories of cited documents:

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
- \*G\* document member of the same patent family

Date of the actual completion of the international search

25 June 2004

Date of mailing of the international search report

19/07/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
 NL - 2280 HV Rijswijk  
 Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
 Fax: (+31-70) 340-3016

Authorized officer

Lamers, W

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE BIOSIS 'Online!  BIOSCIENCES INFORMATION SERVICE,  PHILADELPHIA, PA, US; 2002,  HANNA H A ET AL: "Lactoferrin (LF) and  EDTA synergistic activity: An alternative  antimicrobial catheter lock solution."  XP002255993  Database accession no. PREV200300265551</p>	1,6-8,10
Y	<p>abstract</p> <p>&amp; ABSTRACTS OF THE INTERSCIENCE  CONFERENCE ON ANTIMICROBIAL AGENTS AND,  vol. 42, 2002, page 164,  42nd Interscience Conference on  Antimicrobial Agents and Chemotherapy; San  Diego, CA, USA; September 27-30, 2002,  2002</p>	1,3,4,9, 13,14, 16-27
X	<p>DATABASE CA 'Online!  CHEMICAL ABSTRACTS SERVICE, COLUMBUS,  OHIO, US;  M.O'D.LASSITER:  "Ethylenediaminetetraacetate (EDTA):  influence on the antimicrobial activity of  human lactoferrin against Escherichia coli  and Streptococcus mutans"  XP002255994  retrieved from STN-INTERNATIONAL  Database accession no. 115:205842 CA  see title  &amp; AVAIL.: UNIV.MICROFILMS INT., ORDER NO.  DA9113995 / FROM: DISS.ABSTR.INT. B 1991,  51 (12, PT. 1), 5709, 1990, pages 1-196,</p>	1
X	<p>US 6 468 965 B1 (CUTLER PAUL)  22 October 2002 (2002-10-22)</p> <p>page 2, line 50 - page 3, line 11</p>	12, 16-20, 22-27
Y	<p>DATABASE BIOSIS 'Online!  BIOSCIENCES INFORMATION SERVICE,  PHILADELPHIA, PA, US; 1993,  DIONYSIUS DAVID A ET AL: "Forms of  lactoferrin: Their antibacterial effect on  enterotoxigenic Escherichia coli."  XP002255995  Database accession no. PREV199396107368  abstract  &amp; JOURNAL OF DAIRY SCIENCE,  vol. 76, no. 9, 1993, pages 2597-2606,  ISSN: 0022-0302</p>	1-27

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5 340 924 A (TOMITA MAMORU ET AL) 23 August 1994 (1994-08-23) column 2, line 28 - line 30	1-27
X	column 2, line 50 - line 55  column 5, line 2 - line 4	12,15, 19,20, 22,24-27
X	WO 00/72874 A (NAIDU A SATYANARAYAN) 7 December 2000 (2000-12-07)  page 7, line 34 - page 9, line 10 page 10, line 19 - line 22 page 11, line 3 - line 5 page 14, line 24 - line 28 page 20, line 10 - page 31, line 33	1-5, 7-15, 19-27
Y		1-27
X	DATABASE CHEMABS 'Online! CHEMICAL ABSTRACTS SERVICE, COLUMBUS, OHIO, US; XP002285989 retrieved from STN-INTERNATIONAL Database accession no. 127:277469 CA abstract & JP 09 235209 A (UENO) 9 September 1997 (1997-09-09)	1,2,11, 12,24-27
A	US 2002/160941 A1 (KRUEL MARIAN L) 31 October 2002 (2002-10-31) paragraph '0011! paragraph '0034! - paragraph '0035!	1-27
A	DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 1993, NIKAWA H ET AL: "The fungicidal effect of human lactoferrin on Candida albicans and Candida krusei." XP002255996 Database accession no. PREV199497174729 abstract & ARCHIVES OF ORAL BIOLOGY, vol. 38, no. 12, 1993, pages 1057-1063, ISSN: 0003-9969	1-27
A	DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 1984, NONNECKE B J ET AL: "INHIBITION OF MASTITIC BACTERIA BY BOVINE MILK APO LACTOFERRIN EVALUATED BY IN-VITRO MICRO ASSAY OF BACTERIAL GROWTH" XP002255997 Database accession no. PREV198478027492 abstract	1-27
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>&amp; JOURNAL OF DAIRY SCIENCE, vol. 67, no. 3, 1984, pages 606-613, ISSN: 0022-0302</p> <p>-----</p> <p>DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 1986, BORTNER C A ET AL: "BACTERICIDAL EFFECT OF LACTOFERRIN ON LEGIONELLA-PNEUMOPHILA" XP002255998 Database accession no. PREV198681082134 abstract &amp; INFECTION AND IMMUNITY, vol. 51, no. 2, 1986, pages 373-377, ISSN: 0019-9567</p>	1-27
A	<p>DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 1989, VISCA P ET AL: "GROWTH AND ADSORPTION OF STREPTOCOCCUS-MUTANS 6715-13 TO HYDROXYAPATITE IN THE PRESENCE OF LACTOFERRIN" XP002255999 Database accession no. PREV198987116319 abstract &amp; MEDICAL MICROBIOLOGY AND IMMUNOLOGY, vol. 178, no. 2, 1989, pages 69-80, ISSN: 0300-8584</p>	1-27
A	<p>DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 2001, MIRZA S ET AL: "Bactericidal effects of lactoferrin on Streptococcus pneumoniae." XP002256000 Database accession no. PREV200200189014 abstract &amp; ABSTRACTS OF THE GENERAL MEETING OF THE AMERICAN SOCIETY FOR, vol. 101, 2001, page 142, 101st General Meeting of the American Society for Microbiology;Orlando, FL, USA; May 20-24, 2001, <a href="http://www.asmtusa.org/mtgsrc/generalmeeting.htm">http://www.asmtusa.org/mtgsrc/generalmeeting.htm</a> 2001 ISSN: 1060-2011</p>	1-27

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### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 1-10 (in part)  
because they relate to subject matter not required to be searched by this Authority, namely:  
Although claims 1-10 are (inter alia) directed to a method of treatment of the human body, the search has been carried out and based on the alleged effects of the composition.
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

#### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

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Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 6468965	B1	22-10-2002	NONE	
US 5340924	A	23-08-1994	JP 2688098 B2	08-12-1997
			JP 3215500 A	20-09-1991
			DE 69002606 D1	09-09-1993
			DE 69002606 T2	20-01-1994
			EP 0437958 A1	24-07-1991
			NZ 236786 A	26-03-1992
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			AU 5303500 A	18-12-2000
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			BR 0011021 A	29-04-2003
			BR 0011558 A	26-02-2002
			EP 1181044 A2	27-02-2002
			JP 2003500425 T	07-01-2003
			WO 0072690 A2	07-12-2000
			WO 0072874 A1	07-12-2000
			US 2004043922 A1	04-03-2004
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US 2002160941	A1	31-10-2002	US 6455687 B1	24-09-2002
			US 6277817 B1	21-08-2001
			US 6066469 A	23-05-2000
			AU 2436095 A	29-11-1995
			WO 9530339 A1	16-11-1995
			AU 7453391 A	10-10-1991
			WO 9113982 A1	19-09-1991